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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/707,947	11/08/2000	Kees A.Schouhamer Immink	0630-1167P	9133

2292 7590 10/09/2003

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EXAMINER

NGUYEN, JOHN B

ART UNIT PAPER NUMBER

2819

DATE MAILED: 10/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

09/707,947

Examiner

John B Nguyen

Applicant(s)

IMMINK, KEES A.SCHOUHAMER

Art Unit

2819

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-74 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-74 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 November 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: .

## DETAILED ACTION

### Information Disclosure Statement

1. Information Disclosure Statement (IDS) form PTO-1449 filed on 04/09/01 has been considered.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schouhamer Immink (U.S Patent No. 5,790,056) in view of Schouhamer Immink (U.S Patent No. 5,920,272) and further in view of Schouhamer Immink (U.S Patent No. 5,642,113); Iketani et al. U.S Patent No. 4,760,378); Bessios (U.S Patent No. 6,018,304).

Regarding to claims 1,2,21-23,27-30,32-49,53-64,68-74, Fig.6 (5,790,056); Fig.3 (5,642,113) and Fig.6 (5,920,272) of Schouhamer Immink discloses a method of converting, comprising: receiving m-bit information words (61), where m is an integer; converting the m-bit information words into n-bit code words (62), where n is an integer greater than m, the n-bit code words being divided into a first type and a second type (ABSTRACT) and into coding states of a first kind and a second kind (ABSTRACT) such that an m-bit information word is converted into

an n-bit code word of the first or second kind if the previous m-bit information word was converted into an n-bit code word of the first type and is converted into an n-bit code word of the first kind if the previous m-bit information word was converted into an n-bit code word of the second type (ABSTRACT), the converting step converts the m-bit into n-bit code words that satisfy a dk-constraint (ABSTRACT, 5,790,056), the n-bit codes words of the first type end in zero (Fig. Tables), the n-bit code words of the second type end in one (Fig. Tables), the n-bit code words in the coding state of the first kind start with zero (Fig. Tables), the n-bit code words in a coding state of the second kind start with zero or one (Fig. Tables), a buffer supplying the coding state to the converter (Fig. 6, Buffer Memory).

Regarding to claims 3-20,24-26,31,51,52, Iketani et al. and Bessios discloses the method  $m/n$  is greater than  $2/3$ , and  $d=1$  (embodiments 9-12) and also discloses the  $q$  and  $p$  values.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the methods of Schouhamer Immink to the methods of Iketani et al. and Bessios for the purpose to control the rate of converting the m-bit into n-bit or vice versa.

### **Conclusion**

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. (See enclosed Form PTO-892). The prior art U.S. Patent No. 4,488,142 ; 5,859,601; 4,413,251; 5,047,767 and 6,195,025 are also teach rate  $2/3$  and state machine.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John B Nguyen whose telephone number is (703) 308-6039. The examiner can normally be reached on 8AM-4: 30 PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Tokar can be reached on (703) 305-3493. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

John B. Nguyen  
September 25, 2003



Brian Young  
Primary Examiner